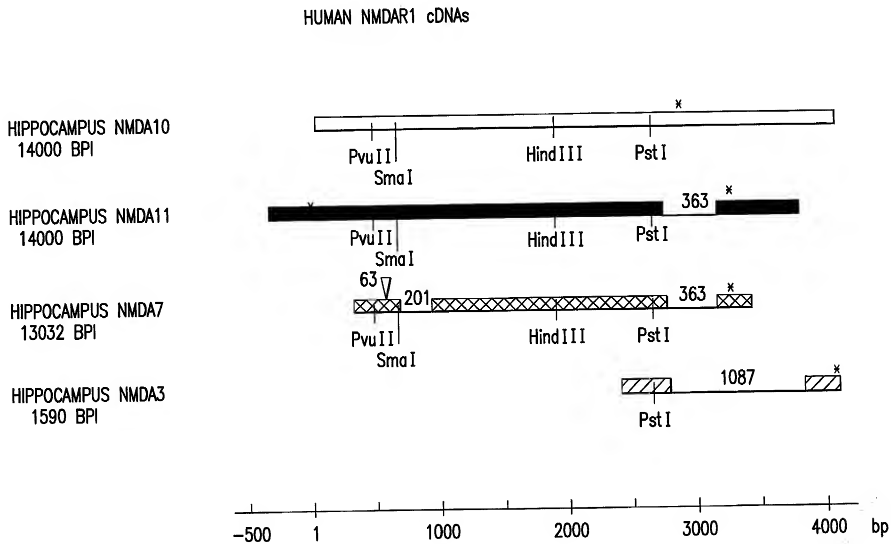
HUMAN NMDAR1 cDNAs
HIPPOCAMPUS NMDA10
14000 BPI
HIPPOCAMPUS NMDA11
14000 BPI
HIPPOCAMPUS NMDA7
13032 BPI
HIPPOCAMPUS NMDA3
1590 BPI
PvuII
SmaI
HindIII
PstI
363
63
201
1087
-500
1
1000
2000
3000
4000
bp

FIG.1

HUMAN NMDAR1A CONSTRUCTS

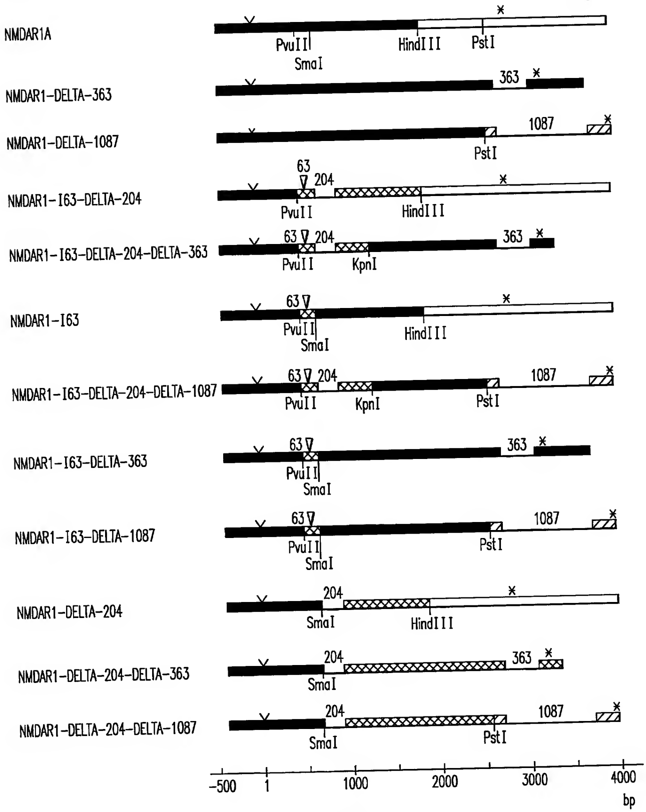

FIG.2

NUCLEOTIDE SEQUENCE OF THE HUMAN NMDARIA RECEPTOR

```
   1  ccagccgggc gttcggagct gtgcccggcc ccgcttcagc accgcggaca gcgccggccg cgtggggctg agcgccgagc cccgcgcac gcttcagccc
 101  cccttccctc ggccgacgtc ccgggaccgc cgctccgggg gagacgtggc gtccgcagcc cgcggggccg ggcgagcgca ggacggcccg gaagccccgc
                                                                      - START
 201  gggggatgcg ccgagggccc cgcgttcgcg ccgcgcagag ccaggcccgc ggcccgagcc cATGAGCACC ATGCGCCTGC TGACGCTCGC CCTGCTGTTC
 301  TCCTGCTCCG TCGCCCGTGC CGCGTGCGAC CCCAAGATCG TCAACATTGG CGCGGTGCTG AGCACGCGGA AGCACGAGCA GATGTTCCGC GAGGCCGTGA
 401  ACCAGGCCAA CAAGCGGCAC GGCTCCTGGA AGATTCAGCT CAATGCCACC TCCGTCACGC ACAAGCCCAA CGCCATCCGG ATGGCTCTGT CGGTGTGCGA
 501  GGACCTCATC TCCAGCCAGG TCTACGCCAT CCTAGTTAGC CATCCACCTA CCCCCAACGA CCACTTCACT CCCACCCCTG TCTCCTACAC AGCCGGCTTC
 601  TACCGCATAC CCGTGCTGGG GCTGACCACC CGCATGTCCA TCTACTCGGA CAAGAGCATC CACCTGAGCT TCCTGCGCAC CGTGCCGCCC TACTCCCACC
                                      Pvu II
 701  AGTCCAGCGT GTGGTTTGAG ATGATCCGTG TCTACAGCTG GAACCACATC ATCCTGCTGG TCAGCGACGA CCACGAGGGC CGGGCGGCTC AGAAACGCCT
                                      63 bp INSERT
 801  GGAGACGCTG CTGGAGGAGC GTGAGTCCAA GGCAGAGAAG GTGCTGCAGT TTGACCCAGG GACCAAGAAC GTGACGGCCC TGCTGATGGA GGCGAAAGAG
              Sma I
 901  CTGGAGGCCC GGGTCATCAT CCTTTCTGCC AGCGAGGACG ATGCTGCCAC TGTATACCGC GCAGCCGCGA TGCTGAACAT GACGGGCTCC GGGTACGTGT
                              BglII
1001  GGCTGGTCGG CGAGCGCGAG ATCTCGGGGA ACGCCCTGCG CTACGCCCCA GACGGCATCC TCGGGCTGCA GCTCATCAAC GGCAAGAACG AGTCGGCCCA
1101  CATCAGCGAC GCCGTGGGCG TGGTGGCCCA GGCCGTGCAC GAGCTCCTCG AGAAGGAGAA CATCACCGAC CCGCCGCGGG GCTGCGTGGG CAACACCAAC
1201  ATCTGGAAGA CCGGGCCGCT CTTCAAGAGA GTGCTGATGT CTTCCAAGTA TGCGGATGGG GTGACTGGTC GCGTGGAGTT CAATGAGGAT GGGGACCGGA
1301  AGTTCGCCAA CTACAGCATC ATGAACCTGC AGAACCGCAA GCTGGTGCAA GTGGGCATCT ACAATGGCAC CCACGTCATC CCTAATGACA GGAAGATCAT
                                      Kpn I
1401  CTGGCCAGGC GGAGAGACAG AGAAGCCTCG AGGGTACCAG ATGTCCACCA GACTGAAGAT TGTGACGATC CACCAGGAGC CCTTCGTGTA CGTCAAGCCC
1501  ACGCTGAGTG ATGGGACATG CAAGGAGGAG TTCACAGTCA ACGGCGACCC AGTCAAGAAG GTGATCTGCA CCGGGCCCAA CGACACGTCG CCGGGCAGCC
1601  CCCGCCACAC GGTGCCTCAG TGTTGCTACG GCTTTTGCAT CGACCTGCTC ATCAAGCTGG CACGGACCAT GAACTTCACC TACGAGGTGC ACCTGGTGGC
1701  AGATGGCAAG TTCGGCACAC AGGAGCGGGT GAACAACAGC AACAAGAAGG AGTGGAATGG GATGATGGGC GAGCTGCTCA GCGGGCAGGC AGACATGATC
1801  GTGGCGCCGC TAACCATAAA CAACGAGCGC GCGCAGTACA TCGAGTTTTC CAAGCCCTTC AAGTACCAGG GCCTGACTAT TCTGGTCAAG AAGGAGATTC
1901  CCCGGAGCAC GCTGGACTCG TTCATGCAGC CGTTCCAGAG CACACTGTGG CTGCTGGTGG GGCTGTCGGT GCACGTGGTG GCCGTGATGC TGTACCTGCT
2001  GGACCGCTTC AGCCCCTTCG GCCGGTTCAA GGTGAACAGC GAGGAGGAGG AGGAGGACGC ACTGACCCTG TCCTCGGCCA TGTGGTTCTC CTGGGGCGTC
```

204 bp DELETION

FIG.3A

HindIII

2101 CTGCTCAACT CCGGCATCGG GGAAGGCGCC CCCAGAAGCT TCTCAGCGCG CATCCTGGGC ATGGTGTGGG CCGGCTTTGC CATGATCATC GTGGCCTCCT
2201 ACACCGCCAA CCTGGCGGCC TTCCTGGTGC TGGACCGGCC GGAGGAGCGC ATCACGGGCA TCAACGACCC TCGGCTGAGG AACCCCTCGG ACAAGTTTAT
2301 CTACGCCACG GTGAAGCAGA GCTCCGTGGA TATCTACTTC CGGCGCCAGG TGGAGCTGAG CACCATGTAC CGGCATATGG AGAAGCACAA CTACGAGAGT
2401 GCGGCGGAGG CCATCCAGGC CGTGAGAGAC AACAAGCTGC ATGCCTTCAT CTGGGACTCG GCGGTGCTGG AGTTCGAGGC CTCGCAGAAG TGCGACCTGG
2501 TGACGACTGG AGAGCTGTTT TTCCGCTCGG GCTTCGGCAT AGGCATGCGC AAAGACAGCC CCTGGAAGCA GAACGTCTCC CTGTCCATCC TCAAGTCCCA
2601 CGAGAATGGC TTCATGGAAG ACCTGGACAA GACGTGGGTT CGGTATCAGG AATGTGACTC GCGCAGCAAC GCCCCTGCGA CCCTTACTTT TGAGAACATG
2701 GCCGGGGTCT TCATGCTGGT AGCTGGGGGC ATCGTGGCCG GGATCTTCCT GATTTTCATC GAGATTGCCT ACAAGCGGCA CAAGGATGCT CGCCGGAAGC

Pst I

2801 AGATGCAGCT GGCCTTTGCC GCCGTTAACG TGTGGCGGAA GAACCTGCAG GATAGAAAGA GTGGTAGAGC AGAGCCTGAC CCTAAAAAGA AAGCCACATT
2901 TAGGGCTATC ACCTCCACCC TGGCTTCCAG CTTCAAGAGG CGTAGGTCCT CCAAAGACAC GAGCACCGGG GGTGGACGCG GTGCTTTGCA AAACCAAAAA
3001 GACACAGTGC TGCCGCGACG CGCTATTGAG AGGGAGGAGG GCCAGCTGCA GCTGTGTTCC CGTCATAGGG AGAGCTGAga ctccccgccc gccctcctct
3101 gccccctccc ccgcagacag acagacagac ggacgggaca gcggcccggc ccacgcagag ccccggagca ccacggggtc gggggaggag cacccccagc
3201 ctcccccagg ctgcgcctgc ccgcccgccg gttggccggc tggccggtcc accccgtccc ggccccgcgc gtgcccccag cgtggggcta acgggcgcct
3301 tgtctgtgta tttctatttt gcagcagtac catcccactg atatcacggg cccgctcaac ctctcagatc cctcggtcag caccgtggtg tgaggccccc
3401 ggaggcgccc acctgcccag ttagcccggc caaggacact gatgggtcct gctgctcggg aaggcctgag ggaagcccac ccgccccaga gactgcccac
3501 cctgggcctc ccgtccgtcc gcccgcccac cccgctgcct ggcgggcagc ccctgctgga ccaaggtgcg gaccggagcg gctgaggacg gggcagagct
3601 gagtcggctg ggcagggccg cagggcgctc cggcagaggc aggcccctgg ggtctctgag cagtggggag cgggggctaa ctgcccccag gcggaggggc
3701 ttggagcaga gacggcagcc ccatccttcc cgcagcacca gcctgagcca cagtggggcc catggcccca gctggctggg tcgcccctcc tcgggcgcct
3801 gcgctcctct gcagcctgag ctccaccctc ccctcttctt gcggcaccgc ccaccaaaca ccccgtctgc cccttgacgc cacacgccgg ggctggcgct
3901 gccctccccc acggccgtcc ctgacttccc agctggcagc gcctcccgcc gcctcggggc gcctcctcca ggatcgagag ggctgagccc ctcctctcct
4001 cgtccggcct gcagcacaga aggggcctc cccggggtc cccggacgct ggctcgggac tgtcttcaac cctgccctgc accttgggca cgggagagcg
4101 ccacccgccc gcccccgccc tcgctccggg tgcgtgaccg gcccgccacc ttgtacagaa ccagcactcc cagggcccga gcgcgtgcct tccccgtgcg
4201 cagccgcgct ctgcccctcc gtccccaggg tgcaggcgcg caccgcccaa cccccacctc ccggtgtatg cagtggtgat gcctaaagga atgtcacg

363 bp DELETION

1087 bp DELETION

FIG.3B

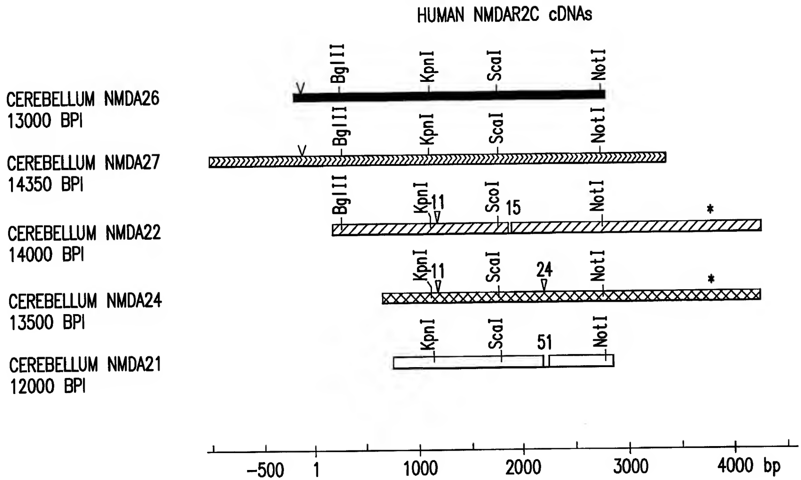
HUMAN NMDAR2C cDNAs
CEREBELLUM NMDA26
13000 BPI
CEREBELLUM NMDA27
14350 BPI
CEREBELLUM NMDA22
14000 BPI
CEREBELLUM NMDA24
13500 BPI
CEREBELLUM NMDA21
12000 BPI
BglII
KpnI
ScaI
NotI
11
15
24
51
*
-500
1
1000
2000
3000
4000 bp

FIG.4

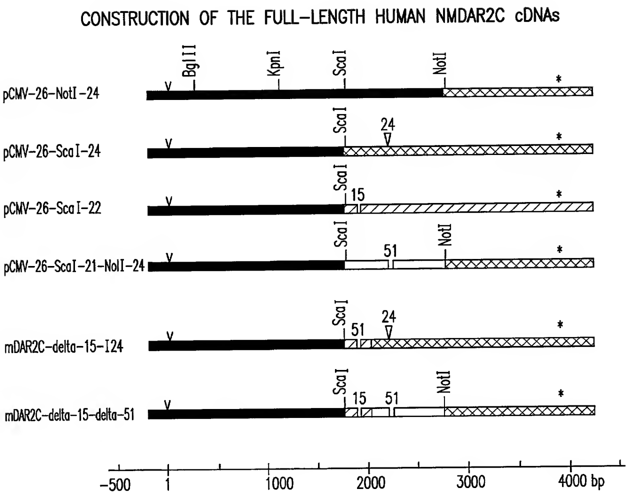
CONSTRUCTION OF THE FULL-LENGTH HUMAN NMDAR2C cDNAs
BglII
KpnI
ScaI
NotI
pCMV-26-NotI-24
pCMV-26-ScaI-24
24
pCMV-26-ScaI-22
15
pCMV-26-ScaI-21-NotI-24
51
mDAR2C-delta-15-I24
mDAR2C-delta-15-delta-51
-500
1
1000
2000
3000
4000 bp

FIG.5

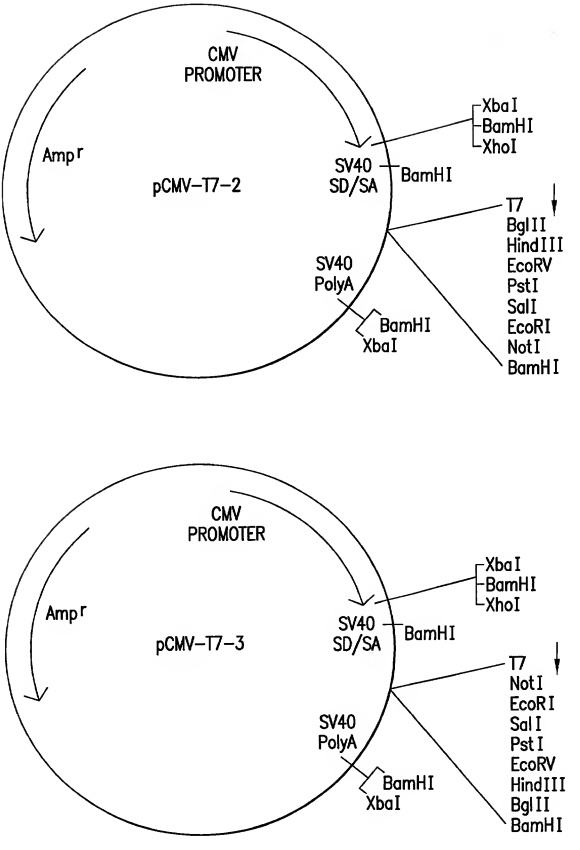

FIG.6